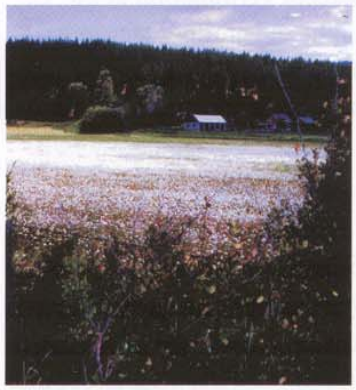
Oxeye Daisy
(*Leucanthemum vulgare* Lam.)

A European native, oxeye daisy has spread to become a weed in 40 countries, from Africa to Australia to North and South America. It is found in every state in the U.S. The species was introduced to the Pacific Northwest in the late 1800's and spread primarily as a contaminant of forage grass and legume seed. By 1937, it had spread to half the counties in the region. In Washington, oxeye daisy occurs on both the eastern and western sides of the Cascades; it is particularly abundant in southwestern and northeastern Washington. Although sale/distribution of the plant is prohibited in Washington, it is still sometimes sold as an ornamental. On seed packets the plant name is often listed as *Chrysanthemum leucanthemum,* which is synonymous with *Leucanthemum vulgare*. Oxeye daisy is a Class B noxious weed in Washington. Control (prevention of all seed production) is required in designated areas.

Oxeye daisy can survive over a wide range of environmental conditions. It is found in native grasslands, overgrazed pastures, waste areas, meadows, railroad rights-of-way and roadsides. The species can flourish on a variety of soil types and is often prevalent on acidic sites low in nutrients. It is frost-tolerant and survives drought well.



Dense populations decrease plant species and diversity.

Oxeye daisy aggressively invades fields, where it forms dense populations, thus decreasing plant species diversity. Even in heavy infestations, bare soil is more common, which increases the potential for soil erosion. Oxeye daisy resists cutting, trampling and grazing. Plants are low in protein and high in fiber. While some animals will eat oxeye daisy, cows and pigs avoid it. Oxeye daisy is not poisonous, but it can give milk an off-flavor if dairy animals consume it.

The species is also a crop weed, affecting 13 crops in 40 countries. In Canada, it is a serious weed of spring-planted crops. It competes with cereals and has been shown to reduce oat yield up to 16 percent. Oxeye daisy is also host to the aster yellow virus and several nematode species.

IDENTIFICATION

Oxeye daisy is an herbaceous perennial, 1 to 3 feet tall, with shallow, branched rhizomes. The stems, which arise from upturned rhizomes or buds on the root crown, range from hairless to slightly hairy. Stems at the base of the plant grow flat along the ground and can root. Other stems grow upright and can be simple to slightly branched.

Bright yellow disk flowers are encircled by white ray flowers that appear as a fringe of 20 to 30 petals.

The toothed, spatula-shaped to round basal leaves occur on long stalks. The stem leaves are alternate and lack stalks; they are generally lance-shaped, with coarse teeth and often have a few lobes at the base. Oxeye daisy flowers are showy. Each flower head is composed of numerous bright yellow disk flowers encircled by white ray flowers that appear as a fringe of 20 to 30 petals. Heads are usually solitary and grow on long stems; heads average 1 to 2 ¼ inches in diameter. The entire plant has a disagreeable odor when crushed.

BIOLOGY AND ECOLOGY

Oxeye daisy spreads vegetatively, so it is rarely found as a single plant, except when newly established from seed. Seeds germinate throughout the growing season, but seedling establishment is optimized in autumn. Growth is slow during the first winter and spring. Extensive rhizome and crown development occurs during the summer, and the crown will send up new shoots in the fall. The plant typically flowers during its second year, but flowering may be delayed if plants are growing under competitive conditions. Flowering occurs June to August, with seeds dispersing August to September. Seeds will germinate as soon as they are dispersed. Oxeye daisy plants normally produce 1,300 to 4,000 seeds, but a vigorous plant may yield up to 26,000. One study found one million seeds per hectare in arable fields and up to 4.2 million seeds per hectare in grasslands. Fruits are dispersed by wind, as well as in dung and with crop seeds. Seeds can remain viable for long periods, but they normally germinate the year they are shed or the following spring. Studies indicate 90 to 95 percent germination at 20° C. Light and chilling appear to have no effect on germination rates.

CONTROL

Because of its shallow root system, oxeye daisy is easily killed by intensive cultivation. In pastures, mowing as soon as the first flowers open can eliminate seed production. However, mowing may stimulate shoot production and subsequent flowering in areas with adequate growing seasons. Seeds germinate rapidly on bare soil, so minimizing bare soil exposed by farming or haying practices, or livestock grazing is valuable.

Application of nitrogen fertilizer can be effective at reducing canopy cover of oxeye daisy. One long-term eastern Washington study found that, after seven years, 80 pounds of nitrogen was the most cost-effective control; grass yields increased 500 percent with this treatment.

Herbicides may be used for control of oxeye daisy. For chemical control recommendations, refer to the *Pacific Northwest Weed Control Handbook*, an annually revised publication available from Washington State University Cooperative Extension.

Control of well-established infestations requires a carefully planned and integrated approach. Contact your local county noxious weed control board, weed district, or Washington State University Cooperative Extension office for assistance developing control strategies for specific sites.

According to the Pacific Northwest Weed Control Handbook, Oxeye Daisy can be controlled with successive herbicide applications of 2,4-D; dicamba (Banvel) or MCPP.

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Reference material and information are available from the Washington State Noxious Weed Control Board in Kent, WA.

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